

CLAIMS

What is claimed is:

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1 ~~1. A thermal interface material, comprising:~~
2 ~~a plurality of thermally conductive, malleable fibers arranged in a pattern, the fibers~~
3 ~~of the pattern in contact with each other, when compressed against a first surface.~~

1 ~~2. The thermal interface material of Claim 1, further comprising:~~
2 ~~a thermal medium, the medium encompassing the fibers, the thermal medium being~~
3 ~~malleable and deforming to fill irregularities when the fibers are compressed against a first~~
4 ~~surface.~~

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1 ~~3. The thermal interface material of Claim 1, wherein the fibers include one of the~~
2 ~~following: a metal, a metal compound, or a metal alloy.~~

1 4. The thermal interface material of Claim 1, wherein the fibers are a non-metal.

1 5. The thermal interface material of Claim 4, wherein the non-metal includes carbon or
2 graphite.

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1 6. The thermal interface material of Claim 1, further comprising:
2 an adhesive applied to the fibers, the adhesive affixing the fibers in position on a first
3 surface until the fibers are compressed against the first surface.

1 7. The thermal interface material of Claim 1, wherein the pattern includes a random
2 pattern.

1 8. The thermal interface material of Claim 1, wherein the pattern includes a stacked
2 pattern.

1 9. The thermal interface material of Claim 1, wherein the pattern includes a woven
2 pattern.

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1 10. A method, comprising:
2 providing a plurality of thermally conductive, malleable fibers in a pattern;
3 positioning the plurality of fibers between a first surface and a second surface; and
4 compressing the plurality of fibers between the first and second surfaces, the
5 compression deforming the fibers into contact with each other and into contact with the first
6 surface and second surface.

1 11. The method of Claim 10, wherein the first surface is a thermal plate and wherein the
2 second surface is a heat source.

1 12. The method of Claim 10, wherein the pattern includes a random pattern.

1 13. The method of Claim 10, wherein the pattern includes a stacked pattern.

1 14. The method of Claim 10, wherein the pattern includes a woven pattern.

1 15. The method of Claim 10, further comprising:
2 encompassing the fibers in a thermal medium, the thermal medium being malleable,
3 the thermal medium deforming to fill irregularities when compressed against a first surface.

1 16. The method of Claim 10, wherein the fibers include one of the following: a metal, a
2 metal compound, a metal alloy.

1 17. The method of Claim 10, wherein the fibers are a non-metal.

1 18. The method of Claim 17, wherein the non-metal includes carbon or graphite.

1 19. The method of Claim 10, further comprising:

2 applying an adhesive to the fibers to affix the fibers in position on the first surface
3 until the fibers are compressed against the first surface.

1 20. An apparatus, comprising:
2 a plurality of thermally conductive, malleable fibers defining a pattern positioned
3 against a first surface; and
4 means for compressing the plurality of fibers between the first surface and second
5 surface, the compression deforming the fibers into contact with each other and with said first
6 surface and said second surface.

1 21. The apparatus of Claim 20, wherein the first surface is a thermal plate and wherein
2 the second surface is a heat source.

1 22. The apparatus of Claim 20, wherein the fibers are encompassed in a thermal
2 medium. The medium acting and being malleable, the thermal medium deforming to fill
3 irregularities when the fibers are compressed against the first surface.

1 23. The apparatus of Claim 20, wherein the fibers include one of the following: a metal,
2 a metal compound, or a metal alloy.

1 24. The apparatus of Claim 20, wherein the fibers are a non-metal.

- 1 25. The apparatus of Claim 20, wherein the non-metal includes carbon or graphite.
- 1 26. The apparatus of Claim 20, wherein the pattern includes a random pattern.
- 1 27. The apparatus of Claim 20, wherein the pattern includes a stacked pattern.
- 1 28. The apparatus of Claim 20, wherein the pattern includes a woven pattern.

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